

AMENDMENTS TO THE CLAIMS

Please amend claim 1 as set forth below.

1. (CURRENTLY AMENDED) A lamp lighting apparatus for lighting a discharge lamp in which discharge medium is ~~encapsulated~~ encapsulated and a pair of electrodes are provided, the lamp lighting apparatus comprising:

a discharge drive circuit ~~for supplying~~ that supplies discharge current to the discharge lamp;

a voltage conversion circuit ~~for boosting~~ that boosts voltage from a DC power and ~~supplying~~ supplies the boosted voltage to the discharge drive circuit; and

an arc discharge detecting circuit ~~for detecting~~ that detects whether a state of discharge of the discharge lamp changes to arc discharge, and ~~outputting~~ outputs an arc discharge transition signal to the voltage conversion circuit,

wherein when the voltage conversion circuit receives the arc discharge transition signal which shows that the transition to the arc discharge ~~does not take place~~ fails to occur, the voltage conversion circuit supplies a first voltage ~~or higher~~ to the discharge drive circuit, and when the voltage conversion circuit receives the arc discharge transition signal which shows that the transition to the arc discharge ~~takes place~~ occurs, the voltage conversion circuit supplies a second voltage lower than the first voltage to the discharge drive circuit.

2. (ORIGINAL) The lamp lighting apparatus according to claim 1, wherein the voltage conversion circuit comprises a boost chopper, and when the voltage conversion circuit receives the arc discharge transition signal which shows that a state of the discharge changes to the arc discharge, an operation of the voltage conversion circuit is suspended.

3. (ORIGINAL) The lamp lighting apparatus according to claim 1, further comprising a starter for initiating the discharge lamp, wherein a predetermined maximum continuing time for repeat trials of discharge initiation is set, and after an arc discharge transition waiting period beginning from an initiation of an operation of the starter expires, the discharge

drive circuit recognizes that it is detected that the state of the discharge changes to the arc discharge.

4. (ORIGINAL) The lamp lighting apparatus according to claim 3, wherein the arc discharge transition waiting period is determined by adding the a maximum continuing time and a maximum necessary time required from an initiation of the discharge of the discharge lamp to a completion of the transition of the arc discharge.

5. (ORIGINAL) The lamp lighting apparatus according to claim 2, further comprising a starter for initiating the discharge lamp, wherein a predetermined maximum continuing time for repeat trials of discharge initiation is set, and after an arc discharge transition waiting period beginning from an initiation of an operation of the starter expires, the discharge drive circuit recognizes that it is detected that the state of the discharge changes to the arc discharge.

6. (ORIGINAL) The lamp lighting apparatus according to claim 5, wherein the arc discharge transition waiting period is determined by adding the a maximum continuing time and a maximum necessary time required from an initiation of the discharge of the discharge lamp to a completion of the transition of the arc discharge.